

AMENDMENTS TO THE DRAWINGS

The attached sheet(s) of drawings includes changes to Fig. 1. Specifically, the reference label --SUBSTRATE-- has been inserted into the added rectangular box in Fig. 1. Please refer to the attachments for the Replacement sheet and Annotated sheet showing changes.

The Examiner further objected to the drawings for not showing the color filter as claimed in claim 7. Applicants respectfully submit that such filters had already been designated as, e.g. “r” or “R”, in Fig. 1. Support for these filters can be found on page 12 of the Specification.

As for the objection to the drawing for not showing the digital camera as claimed in claim 8, Applicants respectfully submit that Figure 3 is in fact a schematic structural representation of a digital camera. Support for this digital camera can be found on page 7 of the Specification.

Applicants respectfully submit that the objections to the drawings have been satisfied in view of the changes made to Figure 1, and the discussion of the color filters and digital camera above. Accordingly, the withdrawal of the objections to the drawings is respectfully requested.

REMARKS

Applicants thank the Examiner for the thorough consideration given the present application. Claims 1-13 are pending in the present application. Claims 1-3 and 5-8 are amended. New claims 9-13 are added. Claims 1, 2, and 3 are independent claims.

Drawing Objections

Figure 1 has been amended to include a rectangular box with the label "SUBSTRATE" representing the substrate claimed.

Abstract Objection

A new Abstract of the Disclosure in the proper format has been submitted to overcome the objection.

Rejections Under 35 U.S.C. § 102(b)

Claims 1, 2, and 5-7 stand rejected under 35 U.S.C. § 102(b) as being anticipated by *Turner* (US Patent Application Publication No.: US 2002/0190254 A1.)

Claim 1 is amended to emphasize the feature of utilizing different color filters in some of the plurality of photoelectric converting regions.

Turner classifies multiple wavelength active pixel sensors into two types. Specifically, one type of multiple wavelength active pixel sensor employs red, green, and blue sensors disposed horizontally in a pattern at or near the semiconductor surface (see paragraph 0005, lines 3 to 5). Another type of multiple wavelength pixel sensor employs more than one sensor in a vertically-oriented arrangement (see paragraph 0006, lines 1 to 3). It is clear from Fig. 2A that Turner's invention is related to the latter type. In other words, the sensors in Turner are arranged in the vertical direction. Turner also discloses that "each of the disclosed embodiments of arrays of color detector groups can optionally be modified by the addition of a

Initially, Applicants respectfully point out the following requirement in MPEP § 2131 for § 102 rejections:

““A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.’ *Verdegaal Bros. V. Union Oil Co. Of California*, 814 F2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). ‘The identical invention must be shown **in as complete detail** as is contained in the ... claims.’ *Richardson v. Suzuki Motor Co.*, 868 F2d 1226, 1236, 9 USQP2d 1913, 1920 (Fed. Cir. 1989).” (Emphasis added.)

In the Office Action of May 8, 2007, Examiner alleged that,

“the three spectral sensitivities referred to in these limitations may or may not be the same spectral sensitivity. It has been further interpreted that a photoelectric converting region may belong to a single “sort” or to multiple “sorts” of any combination.”

Independent claim 2 recites, *inter alia*, the following limitations:

“the photoelectric converting regions includes:
a first sort of photoelectric converting region in which both the main region and the sub-region output photoelectric converting signals having a first spectral sensitivity;
a second sort of photoelectric converting region in which the main region outputs a photoelectric converting signal having a second spectral sensitivity and the sub-region outputs a photoelectric converting signal having a third spectral sensitivity; and
a third sort of photoelectric converting region in which the main region outputs a photoelectric converting signal having a third spectral sensitivity and the sub-region outputs a photoelectric converting signal having a second spectral sensitivity.”

In particular, claim 2 specifically recites, *inter alia*, the “first sort of photoelectric converting region”, “second sort of photoelectric converting region”, and “third sort of photoelectric converting region.” Similarly, claim 2 also specifically recites, *inter alia*,

Independent claim 3 specifically recites, *inter alia*, the following limitations:

“the photoelectric converting regions includes:

a first sort of photoelectric converting region in which both the main region and the sub-region store thereinto signal electron charges having a first spectral sensitivity;

a second sort of photoelectric converting region in which the main region stores thereinto signal electron charges having a second spectral sensitivity and the sub-region stores thereinto signal electron charges having a third spectral sensitivity; and

a third sort of photoelectric converting region in which the main region stores thereinto signal. electron charges having a third spectral sensitivity and the sub-region stores therein signal electron charges having a second spectral sensitivity”

Applicants submit that independent claim 3 specifically recites, *inter alia*, the “first sort of photoelectric converting region”, “second sort of photoelectric converting region”, and “third sort of photoelectric converting region; “first spectral sensitivity”, “second spectral sensitivity”, and “third spectral sensitivity, similar to independent claim 2. Accordingly, for at least the reasons as stated above in regards to claim 2, independent claim 3 should be allowed.

In regards to dependent claims 4 and 8, they provide further limitations to independent claim 3. Accordingly, it is respectfully submitted that claims 4 and 8 are also allowable at least by virtue of their dependency on independent claim 3. Thus, reconsideration and withdrawal of this rejection is respectfully requested.

New Claims

New claims 9-11 are dependent on claims 1-3 respectively, to further recite the feature of, “in each photoelectric converting region, the main region and the sub-region are divided by element isolation region in plan view.” It is submitted that Turner merely discloses arranging sensors in the vertical direction as pointed out above, but does not teach this feature.

“first spectral sensitivity”, “second spectral sensitivity”, and “third spectral sensitivity.” There is no alternative language in claim 2 that the three spectral sensitivities referred to in these limitations may or may not be the same spectral sensitivity, and that a photoelectric converting region may belong to a single “sort” or to multiple “sorts” of any combination, as alleged by Examiner. Applicants respectfully submit that Examiner’s interpretation or assumption of the specific limitations of claim 2 is improper. Examiner cannot inject additional alternative limitations into claim 2, but rather interpret the claim as recited. Thus, it is respectfully submitted that *Turner* fails to teach or suggest the claimed arrangement of three sorts of photoelectric converting regions each having specific spectral sensitivity within the main regions and sub-regions. Accordingly, it is respectfully submitted that independent claim 2 is allowable.

Further, Turner fails to teach or reasonably suggest that “a first sort of photoelectric converting region in which both the main region and the sub-region output photoelectric converting signals having a first spectral sensitivity” as recited in claim 2. Fig. 12 of Turner shows an example in which a green area is smaller than red and blue areas (see paragraph 0061, lines 1 to 4). However, Turner does not teach that both of a main region (having a large area) and a sub-region (having a small area), which belong to the same photoelectric converting region, output photoelectric converting signals having the same spectral sensitivity (for example, spectral sensitivity corresponding to green).

As to dependent claims 5-7, they provide additional limitations to independent claim 2. Accordingly, it is respectfully submitted that claims 5-7 are also allowable at least by virtue of their dependency on independent claim 2. Thus, reconsideration and withdrawal of this rejection is respectfully requested.

Rejections Under 35 U.S.C. 103

Claims 3, 4 and 8 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Turner* in view of *Yamada* (U.S. Patent No. 6,236,434 B1). Applicants respectfully traverse this rejection.

pattern of optical color filters applied over the array” (see paragraph 0019). However, Turner does not teach or suggest that color filters having different colors are disposed in (or above) a main region and a sub region, respectively. To the contrary, for example, in each of the photoelectric converting regions 142, 144 (see Fig. 1 of this application), a color of the color filter for the main region is different from that of the color filter for the sub region. The amended claim 1 recites this feature, that is, “in some of the plurality of photoelectric converting regions, colors of the color filters provided above the main regions are different from those of the color filters provided above the sub regions.” Thus, Applicants believe that the amended claim 1 is distinguished from Turner.

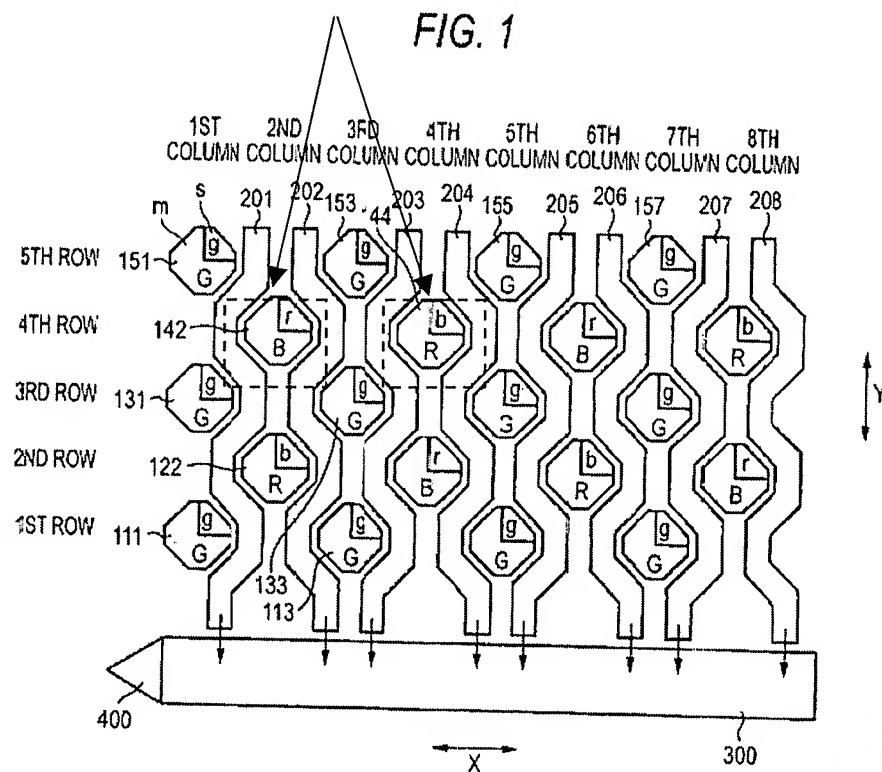


Fig. 1 of this application

In regards to claims 2, and 5-7, Applicants respectfully traverse the rejection.

New claims 12 and 13 are dependent on claims 2 and 3 respectively, to further recite the feature of, "color of the color filter provided above the main region is different/identical from that of the color filter provided above the sub region" in the various first, second and third sort of photoelectric converting regions.

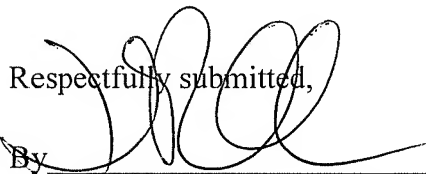
CONCLUSION

Since the remaining patents cited by the Examiner have not been utilized to reject the claims, but to merely show the state of the art, no comment need be made with respect thereto.

In view of the above amendment, applicant believes the pending application is in condition for allowance. Thus, the Examiner is respectfully requested to reconsider the outstanding rejections and issue a Notice of Allowance in the present application.

However, should the Examiner believe that any outstanding matters remain in the present application, the Examiner is requested to contact Applicants' representative, D. Richard Anderson (Reg. No. 40,439) at the telephone number of the undersigned in order to discuss the application and expedite prosecution.

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Respectfully submitted,


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Attachments: Replacement Sheet of Figure 1.